

Claims

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1. A burner for a thermal post-combustion device, having a  
5 combustion nozzle which comprises a substantially hollow-  
cylindrical base member at least virtually closed at one  
end by a cover and to which fuel gas is supplied axially at  
a particular pressure, which gas flows out radially via a  
plurality of main discharge openings,

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characterised in that

the main discharge openings (8) are arranged at such a  
radial distance from the axis of the base member (1) and  
15 exhibit such a cross-section that, at the particular  
pressure of the supplied fuel gas, individual flames form  
at the main discharge openings (8) which substantially do  
not overlap.

20 2. A burner according to claim 1, characterised in that the  
main discharge openings (8) are located at the ends of  
discharge tubes (6) which project outwards from the base  
member (1) in the form of a star.

25 3. A burner according to claim 1 or claim 2, characterised  
in that at least one small-area passage opening (3, 4) is  
provided in the cover (2) and/or in the region of the base  
member (1) close to the cover, wherein the total area of  
all the small-area passage openings (3, 4) in the cover  
30 and/or the base member (1) is less than the total area of  
all the main discharge openings (8).

4. A burner according to claim 2 or claim 3, characterised in that a small-area passage opening (9) for a fuel gas forming a pilot flame is provided in at least one discharge tube (6).

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5. A burner according to one of the preceding claims, characterised in that it comprises a swirl means (13), which imparts eddy flow to the pollutant-containing exhaust air flowing around the combustion nozzle.

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6. A burner according to claim 5, characterised in that the swirl means (13) comprises at least one set of blades (18, 21) extending radially outwards in the manner of spokes.

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7. A burner according to claim 6, characterised in that the swirl means (13) comprises a first set of blades (18), which extend between a combustion nozzle housing (12) coaxially surrounding the combustion nozzle (1) and an intermediate ring (19), and a second set of blades (21), which extend between the intermediate ring (19) and an outer ring (20).

8. A burner according to claim 6 or claim 7, characterised in that at least some of the blades (18, 19) have an inherently twisted shape.

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